

IN THE SPECIFICATION:

Please replace the paragraph beginning at line 12 on page 2 with the following paragraph.

As homes and offices become more networked, there are typically multiple communication terminals and devices in the residential house or office, and local networks are likely installed to share resources, such as internet access, printers, and so on. Home networks are particularly unique in that cost and wiring issues are key considerations. The IEEE 1394 standard has been recently developed which provides for data speeds up to hundreds Mbps. However, the IEEE 1394 standard also requires special cabling for connection, and is not adapted to operate over the common twisted pair telephone lines wired typically throughout a home, for example. A new consortium of home networking, known as Home Phoneline Networking Alliance (HomePNA), was formed ~~and headed by Tut Systems and is supported by top computer and communication industry leaders including its founding members 3COM, AMD, AT&T, Compaq, HP, IBM, Intel, Lucent, and Rockwell, whereby Microsoft is one of the major stock holders of Tut Systems.~~ HomePNA is able to connect PCs and peripherals within a household through a single pair phone line shared not only with the telephone sets, but also with xDSL services provided by modems exchanging information over the conventional twisted pair phone lines. HomePNA runs at the frequency range from 5.5 MHz to 9.5 MHz, while the Plain Old Telephone Service (POTS) operates in the frequency range under 4 KHz, and the xDSL service operates at the frequency range from 275 KHz to 1 MHz. The current available HomePNA technology can provide 1 Mbps Ethernet local networking, and may reach 10 Mbps in the near future.

Please replace the paragraph beginning at line 4 on page 3 with the following paragraph.

The present invention achieves technical advantages as a Multi-Client ADSL Modem and network that can be configured as a home network by providing multiple ADSL modems installed in different communication terminals which may be connected to and coordinated by a multi-client modem at a central office serving as a network hub. This architecture allows connected PCs, for instance, to share internet access, printers, file storage, and so forth, but

without extra hardware cost like Ethernet cards or upgraded cables. Each connection terminal, such as a PC, is able to communicate with the other as a home network by communicating over a single pair of twisted phone line conductors with the central office (10) modem serving as a network hub. The present invention provides three sharing schemes allowing the multi-client ADSL modems to communicate with the central office, and to communicate with each other through the standard phone line connection. The sharing schemes include frame multiplexing, tone sharing, and code division.

CB crucial

Please replace the paragraph beginning at line 17 on page 3 with the following paragraph.

In the frame multiplexing architecture, all connected multi-client ADSL modems receive the same downstream signal from the CO modem. Each multi-client ADSL modem takes the data package it self asked addressed to it from the downstream signal. Each multi-client ADSL modem is allowed in schedule to send one or more frames to the CO modem, while the other multi-client ADSL modems keep quiet. This CO modem can return the frame data from one multi-client ADSL modem to another multi-client ADSL modem through downstream channels. One of the multi-client ADSL modems is first connected to the CO modem, and is then configured as the master multi-client ADSL modem.

CH

Please replace the paragraph beginning at line 2 on page 7 with the following paragraph.

On downstream channels, each multi-client modem 18 receives all the data packets from CO modem 14, but is also adapted to ascertain the data packets that it has requested. A data packet has certain information bits that shows its destination, and which information bits such as header bits are used by each RT modem 18 to identify and decipher the associated data therewith to determine if the data is to be interpreted. One of the multi-client ADSL modems 18 is first connected to the CO modem 14 and is responsively configured by the CO modem 14 as the master multi-client ADSL modem 18. This identified master multi-client ADSL modem 18 then

CD
CD

maintains the a superframe transmission if other multi-client ADSL modems 18 join in, one after another. This superframe is not shared by other multi-client ADSL modems.

Please replace the paragraph beginning at line 10 on page 8 with the following paragraph.

C5

In summary, the present invention provides a local home or office network by which multiple remote terminals at a residential location or office can communicate with one another over a single common pair phone line, without requiring special equipment or additional wiring. The central office modem 14 operates as a network hub, providing ADSL service over a single pair of phone line, to route communications from one remote terminal to another ~~while where~~ all the remote terminals may all reside within a common location, ~~providing ADSL service over a single pair of phone line~~. One remote terminal may communicate with the other, one at a time, or simultaneously depending on the architecture used. The regular telephone service communicating voiceband signals is not affected. Splitters are used to separate the high frequency signals of ADSL from the low frequency signals for voice communications. The present invention utilizes ADSL communications that conform to ADSL standards.